Appendix C		JOB PERFORMANCE MEASURE	Form ES-C-1 (R8, S1)
Facility:	BVPS Unit 1		Task No: 0062-001-01-013
Task Title:	Start [1RC-P-1A], Reactor Coolant Pump	JPM No: <u>2002 NRC S1</u>
K/A Referen	ce: 003 A2	2.02 (3.7/3.9) 003 A3.04 3.6/3.6)	003 A4.06 (2.9/2.9
Examinee: _		NRC E	Examiner:
Facility Evalu	uator: N/A	Date:	
Method of To	esting:		
Simulated P	erformance:	Actual	Performance X
Classroom:		Simulator: X	Plant:
READ TO T	HE EXAMINEE		
I will explain When you co satisfied.	the initial conditi omplete the task	ions, which steps to simulate or discusuccessfully, the objective for this join	uss, and provide initiating cues. b performance measure will be
Initial Condit	tions:	The plant is in Mode 3 preparing to reactor startup. Currently 1RC-P-18 operation. Another Operator has be Coolant Pump Startup procedure coll. IV.A.13. All systems and componer alignment to support pump operation.	and 1RC-P-1C are in egun 1OM-6.4.A, Reactor ompleting all steps through are operating in their normal
Task Standa	ard:	1RC-P-1A is started and then trippe with 1OM-6.4.A and 1OM-53C.4.1.6	ed on high vibration in accordance 3.8.
Required Ma	aterials:	None	
General Ref	erences:	10M-6.4.A, Reactor Coolant Pump 10M-6.4.ACR, Reactor Cool Pump 10M-53C.4.1.6.8, Abnormal RCP C	Vibration High High, Rev. 3
Handouts:		10M-6.4.A, Rev. 20 (marked up cop 10M-6.4.ACR, Rev. 3 10M-53C.4.1.6.8, Rev. 0	py)

The Unit Supervisor directs you to start 1RC-P-1A beginning at Step IV.A.14 of 1OM-6.4.A, Reactor Coolant Pump Startup.

Time Critical Task: NO

Tools:

Initiating Cue:

Validation Time: 20 minutes

Stopwatch

Appendix C	Page 2 of 9	Form ES-C-1 (R8, S1)
	PERFORMANCE MEASUR	E
Start [1RC-P-1A], Reactor Coolant P	ump	2002 NRC S1
Start [1RC-P-1A], Reactor Coolant P	'ump	2002 Nh

Simulator Setup Information

Setup:	Initialize IC-85.	

Ar	pendix C	Page 3 of 9	Form ES-C-1 (R8, S1)
		PERFORMANCE INFORMATIO	
<u>St</u>	art [1RC-P-1A], Reactor (Coolant Pump	2002 NRC S1
(D	enote critical steps with a	n asterisk)	Start Time:
	Performance Step 1: (Step IV.A.14.a)	If starting the first RCP in a non-is temperature of any non-isolated F highest Reactor Coolant Loop to 3 within 10 minutes of starting a rea	RCS loop is ≤ 343°F, verify the Steam Generator ∆T is < 50°F
	Standard:	Candidate N/A's step. (1RC-P-1E	3 and 1C already running.)
	Comments:		
*	Performance Step 2: (Step IV.A.14.b)	Place control switch for [1RC-P-1.	A] to START and Start a stopwatch
	Standard:	Candidate locates pump control s	witch.
		Places control switch to STAFStarts the stopwatch.	RT position.
	Comments:		
<u> </u>	Performance Step 3: (Step IV.A.14.c)	Observe the red running light is C	ON for oil lift pump.
	Standard:	Candidate locates pump indicating	g lights.
		 Verifies red light is ON. 	

Page 4 of 9

Form ES-C-1 (R8, S1)

PERFORMANCE INFORMATION

Start [1RC-P-1A], Reactor Coolant Pump

2002 NRC S1

Performance Step 4: (Step IV.A.14.d)

Verify the RCP starts approximately 2 minutes after the Bearing Lift Oil Pump starts.

Standard:

Candidate locates pump indicating lights.

- Verifies pump starts after approximately 2 minutes using a stopwatch.
- Verifies red light is ON.

Comments:

Performance Step 5: (Step IV.A.14.e)

Verify on [1RC-P-1A Amps] Reactor Coolant Pumps, the RCP starting

amps drop off 10 to 30 seconds after the RCP breaker closes.

Standard:

Candidate locates 1RC-P-1A ammeter.

Verifies starting amps drop off within 10 - 30 seconds.

Comments:

Performance Step 6: (Step IV.A.14.f)

Verify the bearing lift oil pump stops between 47.5 and 52.5 seconds. after the RCP starts as indicated by the green light ON for the oil lift pump.

Standard:

Candidate locates pump indicating lights.

 Verifies green light is ON within 47.5 - 52.5 seconds after RCP start using a stopwatch.

Page 5 of 9

Form ES-C-1 (R8, S1)

PERFORMANCE INFORMATION

Start [1RC-P-1A], Reactor Coolant Pump

2002 NRC S1

Note: The following steps represent the alternate path for this JPM.

Performance Step 7: Respond to RCP high vibration alarms.

Standard: Candidate identifies high vibration condition from annunciators

[A3-126] and [A3-127].

Evaluator Note: After identifying the vibration alarms, provide

the Candidate with a copy of 10M-6.4.ACR.

Evaluator Note: If asked, inform the Candidate that the alarm is

due to a valid condition.

Comments:

Evaluator Note: Provide the Candidate with a copy of

10M-53C.4.1.6.8.

Performance Step 8:

(Step 2.d)

Both of the following are met: ([VIB-MON-1], RCP Vibration Monitor).

Standard:

Candidate verifies high vibration on 1RC-P-1A.

Green LED is ON.

• Shaft vibration > 20 mils or frame vibration > 5 mils.

Evaluator Note:

If necessary, inform the Candidate that another

Operator will monitor the control boards while

checking vibration readings.

Page 6 of 9

Form ES-C-1 (R8, S1)

PERFORMANCE INFORMATION

Start [1RC-P-1A], Reactor Coolant Pump

2002 NRC S1

Performance Step 9:

(Step 2.d.1 RNO)

Trip the reactor.

Standard:

No action required. (The plant is not in Mode 1 or 2 - JPM Initial

Conditions).

Comments:

Performance Step 10:

GO TO E-0, "Reactor Trip or Safety Injection".

(Step 2.d.2 RNO)

Standard:

No action required.

Evaluator Note:

Inform the Candidate that E-0 Immediate Actions are **NOT** required to be performed.

Comments:

* Performance Step 11:

Stop the affected RCP(s).

(Step 2.d.3 RNO)

Standard:

Candidate places 1RC-P-1A control switch to Stop.

Verifies green light is ON and red light is OFF.

Appendix C	Page 7 of 9	Form ES-C-1 (R8, S1)
- defendance	PERFORMANCE INFORMATION	
Start [1RC-P-1A], Reactor C	Coolant Pump	2002 NRC S1
Performance Step 12: (Step 2.d.3 RNO)	Close Przr spray valve for affected RCP(s).	
Standard:	No action required. (Valve is not open).	
Comments:		
Terminating Cue:	When the Candidate stops the RCP, the evis complete.	aluation for this JPM

Stop Time:

Δ	n	n	۵	n	d	ix	\mathcal{C}
м	υ	υ	u	11	u	ΙX	L

Form ES-C-1 (R8, S1)

Page 8 of 9 VERIFICATION OF COMPLETION

Start [1RC-P-1A], Reactor Coolant Pump

2002 NRC S1

JPM No.:	2002 NRC S1	
Examinee's Name:		
Examiner's Name:		
Date performed:		
Facility Evaluator:		
Number of attempts:		
Time to complete:		
Question Documentation:		
Question:		
Response:		
Result:	SAT	UNSAT
Examiner's signature and da	te:	

Appendix C Page 9 of 9 Form ES-C-1 (R8, S1)

JPM CUE SHEET

2002 NRC S1

INITIAL CONDITIONS:

The plant is in Mode 3 preparing to enter Mode 2 to perform a reactor startup. Currently 1RC-P-1B and 1RC-P-1C are in operation. Another Operator has begun 1OM-6.4.A, Reactor Coolant Pump Startup procedure completing all steps through IV.A.13. All systems and components are operating in their normal alignment to support pump operation.

INITIATING CUE:

The Unit Supervisor directs you to start 1RC-P-1A beginning at Step IV.A.14 of 1OM-6.4.A, Reactor Coolant Pump Startup.

Appendix C	;	JOI	B PERFORMA	NCE MEASURE	Form ES-C-1 (R8, S1)
Facility:	BVPS U	nit 1			Task No: 0071-038-01-013
Task Title:	Emerger	ncy Borate Th	ne RCS		JPM No: <u>2002 NRC S2</u>
K/A Refere	nce:		(3.8/3.9) (3.7/3.6)	024 AA1.17 024 AA2.01	(3.9/3.9) (3.8/4.1)
Examinee:				NRC I	Examiner:
Facility Eva	luator:	N/A		Date:	
Method of 7	Testing:				
Simulated F	Performan	ce:		Actual	Performance X
Classroom:			Simulator:	X	Plant:
READ TO 1	THE EXA	MINEE			
I will explain When you catisfied.	n the initia complete t	l conditions, the task succ	which steps to essfully, the ob	simulate or discu jective for this jo	uss, and provide initiating cues. b performance measure will be
Initial Cond	itions:	oper	ating alignmen	t. An event has	er with all systems in their normal occurred that caused [A4-124], larm. This is a valid alarm.
Task Stand	ard:	Eme acco	rgency boratio ordance with 10	n flow establishe DM-7.4.S.	d at greater than 105 gpm in
Required M	laterials:	None	е		
General Re	ferences:	10M	1-7.4.S, Emerg	ency Boration, R	ev. 4
Handouts:		10M	1-7.4.S, Rev. 4		
Tools:		None	е		
Initiating Cu	ie:		Unit Superviso RCS using 10M		ake actions to emergency borate
Time Critica	al Task:	NO			
Validation 1	Гime:	20 m	ninutes		

Appendix C Page 2 of 8 Form ES-C-1 (R8, S1)

JOB PERFORMANCE MEASURE

Emergency Borate The RCS 2002 NRC S2

Simulator Setup Information

Setup: Initialize IC-85.

Override MOV-1CH-350 to fail closed,
green light ON, red light OFF.

Appendix C	Page 3 of 8	Form ES-C-1 (R8, S1)
Emergency Borate The RC	PERFORMANCE INFORMATION S	2002 NRC S2
Denote critical steps with a	n asterisk)	Start Time:
Performance Step 1: (Step IV.A.1)	Ensure at least one [1CH-P-1A (1B Safety Injection, is running.	3) (1C)], Charging Pump High Hea
Standard:	Candidate locates pump controls a	nd verifies one pump running.
	 Verifies red light is ON and white 	te light is OFF.
Comments:		
Performance Step 2: (Step IV.A.2)	Place Emergency Boration Isol VIv OPEN.	[MOV-1CH-350] control switch to
Standard:	Candidate locates valve control sw Verifies red light is ON and gree	en light is OFF.
	Candidate determines that [MOV-1	CH-330] has NOT opened.
Comments:		
	Evaluator Note: This step ma	y be omitted.
Performance Step 3: (Step IV.A.3)	Place the online Boric Acid 2A (2B) control switch to FAST.	Transfer Pump [1CH-P-2A (2B)]
Standard:	Candidate locates pump control sw Verifies pump red light is ON.	ritch and places in fast speed.
Comments:		

Page 4 of 8

Form ES-C-1 (R8, S1)

PERFORMANCE INFORMATION

Emergency Borate The RCS

2002 NRC S2

Evaluator Note:

This step may be omitted.

Performance Step 4:

(Step IV.A.4)

Verify [FI-1CH-110], Emergency Boration flow greater than or equal to

to 30 gpm.

Standard:

Candidate locates flow indicator.

Verifies "0" flow is indicated on FI-1CH-110.

Comments:

Note: The following steps begin the alternate path section of this JPM.

Evaluator Note:

If the Candidate attempts to have [MOV-1CH-350] opened locally, or align the blender to the charging pump suction, then **CUE** that the Shift Manager desires to use the RWST flowpath.

* Performance Step 5:

(Step IV.A.5.a.1)

Align the RWST to charging pump suction.

Open [MOV-1CH-115B] or [MOV-1CH-115D], RWST Disch to Chg

Pumps Suct VIv.

Standard:

Candidate locates valve control switches and places at least one

control switch to the open position.

Verifies red light is ON.

Ap	pendix C	Page 5 of 8 Form ES-C-1 (R8, S1)
_		PERFORMANCE INFORMATION
<u>Er</u>	nergency Borate The RCS	2002 NRC S2
*	Performance Step 6: (Step IV.A.5.a.2)	 Align the RWST to charging pump suction. Close [MOV-1CH-115C] or [MOV-1CH-115E], VCT Outlet to Chg Pumps Suct VIv.
	Standard:	Candidate locates valve control switches and places at least one control switch to the close position.
		 Verifies green light is ON.
	Comments:	
*	Performance Step 7: (Step IV.A.6)	Place [FCV-1CH-122], Chg Flow to Regen Hx Inlet Control VIv controller to MAN.
	Standard:	Candidate locates controller and depresses pushbutton.
	Comments:	
	Dayfayyanaa Stan 9.	If RWST is source of boric acid, establish ≥ 105 gpm charging flow
	Performance Step 8: (Step IV.A.6)	as indicated on [FI-1CH-122A], Charging Pump Flow.
	Standard:	Candidate locates flow indicator.
		 Verifies ≥ 105 gpm indicated on FI-1CH-122A.
	Comments:	

Appendix C	Page 6 of 8 Form ES-C-1 (R8, S1)
Emergency Borate The RCS	PERFORMANCE INFORMATION 2002 NRC S2
Performance Step 9: (Step IV.A.7)	Verify [PI-1RC-455, 456 and 457], PRZR Press indicate < 2335 psig
Standard:	Candidate locates pressure indicators. • Verifies < 2335 psig on PI-1RC-455, 456 and 457.
Comments:	
Performance Step 10: (Step IV.A.8)	If the VCT level increases to the divert setpoint as indicated of [LI-1CH-115], Volume Control Tank Level, verify that the letdown flo is diverted to the Boron Recovery System.
Standard:	Candidate monitors VCT level indicator. • Verifies valves position to divert as necessary.
Comments:	
Performance Step 11: (Step IV.A.9)	If at power, verify Tavg returns to normal and the control bank return to the maneuvering band in response to the boration.
Standard:	Candidate locates control rod height on DRPI or step counters.
	 Verifies control rods are withdrawing or manually withdraws control rods.
Comments:	
Terminating Cue:	When the Candidate verifies that the boric acid flow is established, or
Stop Time:	the evaluation for this JPM is complete.
-	-

Appendix	C
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Page 7 of 8 VERIFICATION OF COMPLETION

Form ES-C-1 (R8, S1)

Emergency Borate The RCS			2002 NRC S2
JPM No.:	2002 NRC S2		
Examinee's Name:			
Examiner's Name:			
Date performed:			
Facility Evaluator:			
Number of attempts:			
Time to complete:			
Question Documentation:			
Question:			
Response:			
Result:	SAT	UNSAT	
Examiner's signature and	date:		

Appendix C	Page 8 of 8 JPM CUE SHEET	Form ES-C-1 (R8, S1)
		2002 NRC S2

INITIAL CONDITIONS:

The plant is in Mode 1 at 77% power with all systems in their normal operating alignment. An event has occurred that caused [A4-124], Rod Control Bank "D" Low-Low to alarm. This is a valid alarm.

INITIATING CUE:

The Unit Supervisor directs you to take actions to emergency borate the RCS using 10M-7.4.S.

Appendix C	;	JOB PERFOR	MANCE MEASURE	Form ES-C-1 (R8, S1)
Facility:	BVPS	Unit 1	Tas	k No: 0111-019- 01-013
Task Title:	Transfe	er To Hot Leg Recirculatio	on JPN	/ No: <u>2002 NRC S3</u>
K/A Refere	nce:	2.1.20 (4.3/4.2) 006 A4.05 (3.9/3.8)		•
Examinee:			NRC Exam	iner:
Facility Eva	uluator:	N/A	Date:	
Method of	Testing:			
Simulated F	Performa	ince:	Actual Perf	ormance X
Classroom:	·	Simulato	or:X	Plant:
READ TO	THE EXA	AMINEE		
l will explai When you o satisfied.	n the initi complete	ial conditions, which steps the task successfully, the	s to simulate or discuss, a e objective for this job per	and provide initiating cues. formance measure will be
Initial Cond	litions:	LOCA. The cre	w has performed all requoriculation. The decision	e the plant experienced a ired EOP actions. The plant has been made to transfer to
Task Stand	lard:	Safety Injection with 1OM-53A.1	System aligned for hot le .ES-1.4.	eg recirculation in accordance
Required M	1aterials:	Shorting Bars		
General Re	eferences	s: 1OM-53A.1.ES- Recirculation, Is		neous Cold Leg and Hot Leg
Handouts:		10M-53A.1.ES-	1.4, Issue 1C, Rev. 1	
Tools:		None		
Initiating Cu	ue:		visor directs you to align t vith EOP ES-1.4.	he plant for hot leg recirculation
Time Critica	al Task:	NO		

20 minutes

Validation Time:

Appendix C	Page 2 of 8	Form ES-C-1 (R8, S1)
• •	JOB PERFORMANCE MEASURE	
Transfer To Hot Leg Recircu	lation	2002 NRC S 3

Simulator Setup Information

Setup:	Initialize IC-87.	

ppendix C	Page 3 of 8 PERFORMANCE INFORMATION	Form ES-C-1 (R8, S1)
ransfer To Hot Leg Recirc		2002 NRC S3
Denote critical steps with	an asterisk)	Start Time:
Performance Step 1: (Step 1.a)	If not already performed, Verify valve lineup for cold leg recircular	
Standard:	No action required. (Plant is in cold leg recirculation per JPM In Conditions).	
Comments:		
Performance Step 2: (Step 1.b.1)	Check the following: Charging/HHSI Pumps - TWO	RUNNING.
Standard:	Candidate locates pump controls f Verifies red light is ON for both	
Comments:		
Performance Step 3: (Step 1.b.2)	Check the following: LHSI Pumps - AT LEAST ONE	ERUNNING.
Standard:	Candidate locates pump controls f Verifies red light is ON for at le	
Comments:		

Page 4 of 8

Form ES-C-1 (R8, S1)

PERFORMANCE INFORMATION

Transfer to Hot Leg Recirculation

2002 NRC S3

Evaluator Note:

Provide Candidate with shorting bars.

* Performance Step 4:

(Step 1.c)

Insert shorting bar into [MOV-1SI-869B], HHSI To Hot Legs Isol VIV

jack.

Standard:

Candidate locates jack and installs shorting bar.

Comments:

* Performance Step 5:

(Step 1.d)

Initiate opening [MOV-1SI-869B], HHSI To Hot Legs Isol VIv.

Standard:

Candidate locates valve control switch and places to the open

position.

Verifies red light is ON and green light is OFF.

Comments:

* Performance Step 6:

(Step 1.e)

Immediately close [MOV-1SI-867A, 867B], BIT Inlet Isol Vivs.

Standard:

Candidate locates valve control switches and places to the close

position.

Verifies red lights are OFF and green lights are ON.

Appendix C		Page 5 of 8 PERFORMANCE INFORMATION	Form ES-C-1 (R8, S1)
Transfer to Hot L	eg Recircu	lation	2002 NRC S3
Performance (Step 1.f)	e Step 7:	Verify [FI-1SI-943], Hi Head SI To BIT F	low.
Standard:		Candidate locates flow indicator. • Verifies flow.	
Comments:			
* Performance (Step 1.g)	e Step 8:	Insert shorting bar into [MOV-1SI-869A] jack.	, HHSI To Hot Legs Isol VIv
Standard:		Candidate locates jack and installs shor	ting bar.
Comments:			

* Performance (Step 1.h)	e Step 9:	Initiate opening [MOV-1SI-869A], HHSI	To Hot Legs Isol VIv.
Standard:		Candidate locates valve control switch a position.	and places to the open
		 Verifies red light is ON and green lig 	ht is OFF.
Comments:			

Page 6 of 8	Form ES-C-1 (R8, S1)
	2002 NRC S3
Immediately close [MOV-1SI-836], HHSI	To RCL Cold Legs Isol VIv
Standard: Candidate locates valve control switch and places position.	
 Verifies red light is OFF and green light 	nt is ON.
Verify HHSI Hot Leg Hdr Flow on [FI-1SI-	940] - INDICATED.
Candidate locates flow indicator.	
Verifies flow.	
Remove both shorting bars from jacks.	
Candidate locates and removes shorting b	pars.
	PERFORMANCE INFORMATION lation Immediately close [MOV-1SI-836], HHSI Candidate locates valve control switch an position. Verifies red light is OFF and green

When the Candidate verifies HHSI flow is indicated, the evaluation for this JPM is complete. Terminating Cue:

Stop Time: _____

Appendix C	Page 7 of 8	Form ES-C-1 (R8, S1)
	VERIFICATION OF COMPLETION	
Transfer to Hot Leg Recircula	ation	2002 NRC S3

3			
JPM No.:	2002 NRC S3		
Examinee's Name:			
Examiner's Name:			
Date performed:			
Facility Evaluator:			
Number of attempts:			
Time to complete:			
Question Documentation:			
Question:			
Response:			
Result:	SAT	UNSAT	
Examiner's signature and da	ate:		

Appendix C	Page 8 of 8	Form ES-C-1 (R8, S1)
•	JPM CUE SHEET	
		2002 NRC <u>S3</u>

INITIAL CONDITIONS:

Approximately 8 hours have passed since the plant experienced a LOCA. The crew has performed all required EOP actions. The plant is in cold leg recirculation. The decision has been made to transfer to hot leg recirculation.

INITIATING CUE:

The Unit Supervisor directs you to align the plant for hot leg recirculation in accordance with EOP ES-1.4.

Appendix C		JOB PERFORMANCE MEAS	URE Form ES-C-1 (R8, S1)
Facility:	BVPS Unit 1		Task No: 0121-008-04-011
Task Title:	Calculate And F Air Partial Press	Restore Containment sure	JPM No: <u>2002 NRC S4</u>
K/A Referen	nce: 103 A	1.01 (3.8/3.9)	
Examinee:		N	RC Examiner:
Facility Eval	uator: N/A	D	ate:
Method of T	esting:		
Simulated P	erformance:	A	ctual PerformanceX
Classroom:		Simulator: X	Plant:
READ TO T	HE EXAMINEE		
l will explain When you c satisfied.	the initial condit omplete the task	ions, which steps to simulate or o successfully, the objective for th	discuss, and provide initiating cues. is job performance measure will be
Initial Condi	tions:	The plant is in Mode 3. The IPC The Ohio River water temperate are 54.5°F, 54.4°F, 54.8°F and T0635A, T0655A, T0661A and	ure is 73°F. Dewpoint temperatures 54.7°F respectively for computer points
Task Standa	ard:	Containment air partial pressure calculated, compared to Technical Specifications and actions initiated to restore to within limits.	
Required Ma	aterials:	Calculator and Steam Tables	
General Ref	ferences:	10M-54.3.L5, Surveillance Veri Technical Specifications 3.6.1.4 10M-12.4.E, Maintaining the Co	and Figure 3.6-1
Handouts:		10M-54.3.L5, Rev. 31 Technical Specifications LCO 3 10M-12.4.E, Rev. 2	.6.1.4 and Figure 3.6-1
Tools:		None	
Initiating Cu	e:	The Unit Supervisor directs you pressure and adjust as necessa LCO 3.6.1.4.	to calculate containment air partial ary to satisfy Technical Specification
Time Critica	l Task:	NO	

Validation Time:

20 minutes

Page 2 of 8	Form ES-C-1 (R8, S1)
B PERFORMANCE MEASURE	
ent Air Partial Pressure	2002 NRC S4
	B PERFORMANCE MEASURE

Simulator Setup Information

Setup:	Initialize IC-85.		

Appendix C	Page 3		Form ES-C-1 (R8, S1)	
Calculate And Restore Con			2002 NRC S4	
(Denote critical steps with a	ın asterisk)		Start Time:	
Performance Step 1: (Item 119.a)	Log Containment D	ewpoint Temp	eratures.	
Standard:	Candidate records temperatures (from JPM Initial Conditions).			
Comments:				
* Performance Step 2: (Item 119.b)	Average of tempera	itures.		
Standard:	Candidate calculates average dewpoint temperature.			
	Evaluator Note:	Average de	wpoint temperature equals 54.6°F	
Comments:				
Performance Step 3: (Item 119.c)	Log Containment P	ressure.		
Standard:	Candidate locates [PI-1CV-101A	, 101B1] and records readings.	
	Evaluator Note:		nt pressure readings are ely 10.2 psia.	
Comments:				

Form ES-C-1 (R8, S1) Appendix C Page 4 of 8 PERFORMANCE INFORMATION Calculate And Restore Containment Air Partial Pressure **2002** NRC S4 Performance Step 4: Average of pressures. (Item 119.d) Candidate calculates average total air pressure. Standard: **Evaluator Note:** Average pressure equals 10.1 - 10.3 psia. Comments: Determine saturation pressure for Item 119.b from the saturate steam Performance Step 5: (Item 119.e) tables. Candidate determines saturation pressure corresponding to dewpoint Standard: temperature from the steam tables. Saturation pressure equals 0.21 psia. **Evaluator Note:** Comments: Calculate Air Partial Pressure (Item 119.d - Item 119.e). Performance Step 6: (Item 119.f) Standard: Candidate subtracts saturation pressure from average containment total air pressure to determine calculated air partial pressure. Calculated air partial pressure equals **Evaluator Note:** 9.89 - 10.09 psia.

Appendix C		Page (Form ES-C-1 (R8, S1)
Calculate And Restore Cont			ressure	2002 NRC S4
* Performance Step 7:		Determine MAO from Technical Specification Figure 3.6-1.		
Standard:			Figure 3.6-1 and cature of 73°F.	determines MAO based on
	Evalua	ator Note:	MAO equals ap	proximately 9.85 psia.
Comments:				
* Performance Step 8: (Item 119.g)	Verify	calculated Ai	ir Partial Pressure i	s > 8.9 psia and < MAO.
Standard:		date determir er than MAO)		pressure is NOT within limits
	Candid limit.	date reports a	air partial pressure	is above Technical Specifications
	CUE:		pervisor, direct the (sing 1OM-12.4.E.	Candidate to lower containment
	Evalua	ator Note:		ndidate with a copy of 10M-12.4.E the Initial Conditions are met.
Comments:				
Comments:				

Αŗ	pendix C	Page 6	Form ES-C-1 (R8, S1)			
C	alculate And Restore Cont	PERFORMANCE ainment Air Partial Pi	2002 NRC S4			
* Performance Step 9: (Step IV.A.1)			B)], Cnmt Vac 1A (1B	<u> </u>		
	Standard:	Candidate locates p	oump control switch a	nd places in Start position		
		 Verifies red light is ON. 				
		Evaluator Note:	Evaluator Note: If asked, direct Candidate to			
	Comments:					
	Performance Step 10: (Step IV.A.2)	Verify open [TV-1C	V-150B], 1A Cnmt Va	ic Pump Cnmt Isol VIv.		
	Standard:	Candidate locates valve indicating lights.				
		 Verifies red light 	t is ON and green ligh	nt is OFF.		
	Comments:					
	Performance Step 11: (Step IV.A.3.a)		ischarged by the follo	wing: ont Vac Integrated Flow.		
	Standard:	Candidate verifies a	air discharge through	movement of FTO-CV101		
		Evaluator Note:	No specific amoun	t of flow is required.		
	Comments:					

Terminating Cue:

When the Candidate verifies that air is being discharged, the evaluation for this JPM is complete.

						•	_
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$\overline{}$	LJ	IJ	┌;		u	ix	١.

Page 7 of 8

Form ES-C-1 (R8, S1)

VERIFICATION OF COMPLETION Calculate And Restore Containment Air Partial Pressure 2002 NRC S4 2002 NRC S4 JPM No.: Examinee's Name: Examiner's Name: Date performed: Facility Evaluator: Number of attempts: Time to complete: Question Documentation: Question: Response: SAT _____ UNSAT ____ Result:

Examiner's signature and date:

Appendix C	Page 8 of 8	Form ES-C-1 (R8, S1)
	JPM CUE SHEET	
		2002 NRC S4

INITIAL CONDITIONS:

The plant is in Mode 3. The IPC is out of service. The Ohio River water temperature is 73°F. Dewpoint temperatures are 54.5°F, 54.4°F, 54.8°F and 54.7°F respectively for computer points T0635A, T0655A, T0661A and T0675A.

INITIATING CUE:

The Unit Supervisor directs you to calculate containment air partial pressure and adjust as necessary to satisfy Technical Specification

LCO 3.6.1.4.

Appendix C	JOB PERFORMANCE MEASURE	Form ES-C-1 (R8, S1)
Facility: BVPS Unit 1		Task No: 0362-007-01-013
Task Title: Transfer Bus Normal Feed	1AE From Emergency To	JPM No: <u>2002 NRC S5</u>
K/A Reference: 064	A4.06 (3.9/3.9)	
Examinee:	NRC E	Examiner:
Facility Evaluator: N/A	Date:	
Method of Testing:		
Simulated Performance: _	Actual	Performance X
Classroom:	Simulator: X	Plant:
READ TO THE EXAMINE	Ē	
I will explain the initial cond When you complete the tas satisfied.	ditions, which steps to simulate or discusk successfully, the objective for this join	uss, and provide initiating cues. b performance measure will be
Initial Conditions:	The Unit is in Mode 1. EDG No. 1 is loads on 4KV Bus "1AE". Normal 4 Unit Station Service Transformer. A normal to emergency tie breakers, 1	KV Bus "1A" is energized from the ACB 1E12 is closed and the 4KV
Task Standard:	4KV Bus "1AE" is supplied from its r shutdown in accordance with 1OM-3	
Required Materials:	None	
General References:	10M-36.4.Q, Transferring Emergen Emergency Feed To Normal Feed,	cy Busses 1AE And 1DF From Rev. 7
Handouts:	10M-36.4.Q, Rev. 7	
Tools:	None	
Initiating Cue:	The Unit Supervisor directs you to to shutdown EDG No. 1 in accordance	
Time Critical Task:	NO	

Validation Time:

25 minutes

Page 2 of 9 Form ES-C-1 (R8, S1) Appendix C JOB PERFORMANCE MEASURE Transfer Bus 1AE From Emergency To Normal Feed 2002 NRC S5

Simulator Setup Information

Setup: Initialize IC-86.

Ensure EDG No. 1 Speed Droop is set at 55

(LOA EPS288 - Parallel Operations)

Ap	ppendix C	Page 3		Form ES-C-1 (R8, S1)			
т.	PERFORMANCE INFORMATION Transfer Bus 1AE From Emergency To Normal Feed 2002 NRC S5						
	ansier bus TAE From Em	ergency to Norman e					
(C	enote critical steps with a	n asterisk)		Start Time:			
		Evaluator Note:		n Candidate that grid stability has nd Operations management has on to proceed.			
*	Performance Step 1: (Step IV.A.1)	Place the Emerg Ger position.	n 1 Synchronizin	g Sel Sw to the ACB 1E7			
	Standard:	Candidate locates ar position.	nd places selecto	or switch to the ACB 1E7			
	Comments:						
	Performance Step 2: (Step IV.A.2)	Verify ANN A9-8, AC	:B 1E7 OR 1E9 I	N SYNCHRONIZING MODE,			
	Standard:	Candidate verifies Al	NN A9-8 is ON.				
	Comments:						
	Performance Step 3: (Step IV.A.3)	Check control switch OPEN position.	4KV Bus 1AE T	o 1A ACB 1E7 is in the AFTER-			
	Standard:	Candidate locates ar position.	nd checks contro	I switch is in the AFTER-OPEN			
		 Verifies green tar 	·get.				
	Comments:						

Appendix C	Page 4		Form ES-C-1 (R8, S1)		
For the Board AF Francis Fran	PERFORMANCE		2002 NDC SE		
ransfer Bus 1AE From Eme	ergency to Normal F	eea	2002 NRC S 5		
Performance Step 4: (Step IV.A.4)	Close 4KV Bus 1A To 1AE ACB 1A10.				
Standard:	Candidate locates a position.	and momentarily p	places control switch to Close		
	 Verifies 1A10 breaker red light is ON. 				
	Evaluator Note:	Evaluator Note: If asked, inform Candidate that ar Operator will perform independen			
Comments:					
Performance Step 5: (Step IV.A.5)	Adjust the governor frequency at approx		bb to 55 while maintaining		
Standard:	Candidate directs local operator to adjust speed droop • Maintains EDG frequency at approximately 60 Hz.				
	CUE: Speed droo	p is set at 55.			
Comments:					
Performance Step 6: (Step IV.A.6)	Using the Emerg G speed UNTIL the S FAST direction.	en 1 Governor co ynchroscope need	ntrol switch, Adjust the generat dle is Rotating very slowly in the		
Standard:	Candidate locates a	and observes synd	chroscope rotation.		
	 Adjusts governo the fast direction 		ntil the needle is rotating slowly		
Comments:					

Form ES-C-1 (R8, S1) Appendix C Page 5 of 9 PERFORMANCE INFORMATION Transfer Bus 1AE From Emergency To Normal Feed **2002 NRC S5** Using the Emerg Gen 1 Volt Adjust, match generator voltage Performance Step 7: (Running) with the voltage on Bus 1A (Incoming). (Step IV.A.7) Candidate locates generator voltmeter (Sync Volts Running Norm) Standard: and compares it to 4KV Bus 1A voltmeter (Sync Volts Incoming Norm). Verifies generator voltage matches bus voltage Adjusts, if necessary not to exceed 130 volts. Comments: When both synchronizing lights are completely dark AND the Performance Step 8: synchroscope needle is at 12 o'clock position, THEN Close 4KV Bus (Step IV.A.8) 1AE To 1A ACB 1E7. Candidate monitors both synchroscope lights and places breaker Standard: control switch to close position when needle is at 12 o'clock. Verifies 1A ACB 1E7 breaker red light is ON. Comments: Place the Emerg Gen 1 Synchronizing Sel Sw to the OFF position. Performance Step 9: (Step IV.A.9)

Candidate places selector switch to the OFF position.

Standard:

pendix C	Page 6 of 9	Form ES-C-1 (R8, S1)
	PERFORMANCE INFORMATION	
ansfer Bus 1AE From Eme	ergency To Normal Feed	2002 NRC S5
Performance Step 10: (Step IV.A.9.a)	Verify ANN A9-8, ACB 1E7 OR 1E9 IN 3 is OFF.	SYNCHRONIZING MODE,
Standard:	Candidate verifies ANN A9-8 is OFF.	
Comments:		
Performance Step 11: (Step IV.A.10)	Perform the following to clean out the exdown the diesel generator, as necessary	
Standard:	No action required.	
	CUE: The diesel has been running at f	ull load for about 8 hours.
Comments:		
Performance Step 12: (Step IV.A.11)	Reduce load on the No. 1 Diesel Genera Gen 1 Governor control switch intermitte	ator by Placing the Emergently to the LOWER position
Standard:	Candidate locates and intermittently pla- lower position.	ces control switch to the
	Monitors the following to ensure limi load decrease:	ts are not exceeded during t
	♦ 130 volts	
	 Between 0.8 and 1.0 power factor 	Nr.

Appendix C	Page 7 of 9	Form ES-C-1 (R8, S1)
Transfer Bus 1AE From Em	PERFORMANCE INFORMATION	2002 NRC S5
Transler bus TAE From Em		
* Performance Step 13: (Step IV.A.12)	When the load on the No. 1 Diesel Gene less than 200 KW (as read on the Emer Open Emerg Gen 1 Circuit Breaker ACE	g Gen 1 Watts meter), THEN
Standard:	Candidate reduces load to less than 200 breaker control switch to the trip position	
	 Verifies breaker ACB 1E9 white light 	t is ON.
Comments:		
Performance Step 14: (Step IV.A.13)	Verify the Emerg Gen 1 Motor Operated	I Gnd Sw DS1, is Open.
Standard:	Candidate verifies green light is ON and	red light is OFF.
Comments:		
Performance Step 15: (Step IV.A.14)	Shutdown [EE-EG-1], Emergency Diese accordance with 10M-36.4.AG, "Diesel Shutdown".	el Generator No. 1 in Generator No. 1 Start-Up And
Standard:	No action required.	
	CUE: The Turbine Bldg. Operator will s	shutdown the diesel generato
Comments:		
Terminating Cue:	When the Candidate verifies the ground	switch is open, the
Tommaning Out.	evaluation for this JPM is complete.	Times of all ma

Stop Time: _____

							_
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Page 8 of 9

Form ES-C-1 (R8, S1)

VERIFICATION OF COMPLETION

Transfer Bus 1AE From Emergency To Normal Feed

2002 NRC S5

JPM No.:	2002 NRC S5			
Examinee's Name:				
Examiner's Name:				
Date performed:				
Facility Evaluator:				
Number of attempts:				
Time to complete:				
Question Documentation:				
Question:				
Response:				
Result:	SAT	UNSAT _		
Examiner's signature and da	ate:	 	_	

Appendix C	Page 9 of 9	Form ES-C-1 (R8, S1)
	JPM CUE SHEET	
		2002 NRC S5

INITIAL CONDITIONS:

The Unit is in Mode 1. EDG No. 1 is running and carrying the loads on 4KV Bus "1AE". Normal 4KV Bus "1A" is energized from the Unit Station Service Transformer. ACB 1E12 is closed and the 4KV normal to emergency tie breakers, 1A10 and 1E7 are open.

INITIATING CUE:

The Unit Supervisor directs you to transfer Bus "1AE" to Bus "1A" and shutdown EDG No. 1 in accordance with 1OM-36.4.Q.

Appendix C	;	J	OB PERFORMA	NCE MEAS	URE Form ES-C-1 (R8, S1)
Facility:	Facility: BVPS Unit 1				Task No: 0341-003-01-013
Task Title:	ask Title: Start A Containment Instrument Air Compressor				JPM No: <u>2002 NRC S6</u>
K/A Refere	nce:	078 K3.01	(3.1/3.4)	078 A3.0	1 (3.1/3.1)
Examinee:				N	RC Examiner:
Facility Eva	lluator:	N/A		Da	ate:
Method of 1	Festing:				
Simulated F	Performan	ce:		Ad	ctual Performance X
Classroom:		_	Simulator: _	X	Plant:
READ TO THE WHEN YOU CONTROL OF THE WHEN YOU CONTROL OF THE WHEN YOU T	n the initia complete t	l conditions he task suc A L and hav Co	COCA has just or COCA has just or Containment P Ve been reenergi oldown and Dep	jective for the ccurred resulthase A and ized following ressurization	discuss, and provide initiating cues. is job performance measure will be Iting in a Reactor Trip, Safety Injection, Phase B Isolation. The stub busses g the CIB. Step 4 of ES-1.2, Post LOC n is in progress. 1IA-C-1B, CNMT
Task Stand	lard:	Sta	trument Air Com art 1IA-C-1A, CN M-53A.1.ES-1.2	MT Instrume	n clearance. ent Air Compressor in accordance with
Required M	laterials:	No	ne		
General Re	ferences:		M-53A.1.ES-1.2 ue 1C, Rev. 3	, Post LOCA	Cooldown And Depressurization,
Handouts:		10	M-53A.1.ES-1.2	, Issue 1C, F	Rev. 3
Tools:		No	ne		
Initiating Cu	ie:	LO			to perform Step 4 of ES-1.2, Post rization to restore containment
Time Critica	al Task:	NC)		

Validation Time:

15 minutes

Appendix C Page 2 of 7 Form ES-C-1 (R8, S1)

JOB PERFORMANCE MEASURE

Start A Containment Instrument Air Compressor 2002 NRC S6

Simulator Setup Information

Setup: Initialize IC-87.

Place YCT w/Red Slash on C/S for 1IA-C-1B.

Appendix C	Page 3 of 7 PERFORMANCE INFORMATION	Form ES-C-1 (R8, S1)
Start a Containment Instrun		2002 NRC S6
(Denote critical steps with a		Start Time:
Performance Step 1: (Step 4.a)	CNMT Instr Air Compressor - AT LEA	
Standard:	Candidate verifies that no compresso	rs are running.
Comments:		
Performance Step 2: (Step 4.a.1 RNO)	Check at least one chiller [1VS-E-3A,	B, C] in service.
Standard:	Candidate checks annunciators are c Operator to check chiller status.	lear, or dispatches Turbine Bldg
	CUE: Report as Turbine Bldg. Opera	ator that 1VS-E-3A is in service.
Comments:		
* Performance Step 3: (Step 4.a.2 RNO)	Open [TV-1CC-110D, F2], CNMT Red CNMT Isol VIv.	circ Clg Coils AC/RW Outlet
Standard:	Candidate locates valve control switch Verifies red lights are ON and gre	•
Comments:		

Appendix C	Page 4 of 7	Form ES-C-1 (R8, S1)
	PERFORMANCE INFORMATION	
Start a Containment Instrum	ent Air Compressor	2002 NRC S6
* Performance Step 4: (Step 4.a.3 RNO)	Open [TV-1CC-110E2, E3], CNMT Red CNMT Isol Vivs.	circ Clg Coils AC Sys Inlet
Standard:	Candidate locates valve control switche Verifies red lights are ON and green	•
Comments:		
* Performance Step 5: (Step 4.a.4 RNO)	Start an available [1IA-C-1A (B)] CNM	Instr Air Compressor.
Standard:	Candidate locates 1IA-C-1A control sw position. • Verifies red light is ON.	itch and places to Start
Comments:		
Performance Step 6: (Step 4.a.5 RNO)	If available, place the standby CNMT Ir	nstr Air Compressor in AUTO.
Standard:	No action required. [1IA-C-1B] is on clo	earance (JPM Initial
Comments:		

Appendix C	Page 5 of 7	Form ES-C-1 (R8, S1)
	PERFORMANCE INFORMATION	
Start a Containment Instru	ment Air Compressor	2002 NRC S6
Performance Step 7: (Step 4.b)	CNMT instrument air header pressure of THAN 85 psig.	n [PI-1IA-106A] – GREATER
Standard:	Candidate checks instrument air header Annunciator [A6-110] is not lit.	r pressure > 85 psig, or
Comments:		
Terminating Cue:	When the Candidate determines that co	
Ston Timo		·

Appendix C	Page 6 of 7	Form ES-C-1 (R8, S1)
	VERIFICATION OF COMPLETION	I
Start a Containment In	strument Air Compressor	2002 NRC S6

JPM No.:	2002 NRC S6		
Examinee's Name:			
Examiner's Name:			
Date performed:			
Facility Evaluator:			
Number of attempts:			
Time to complete:			
Question Documentation:			
Question:			
Response:			
Result:	SAT	UNSAT	
Examiner's signature and da	ute:		

Appendix C	Page 7 of 7	Form ES-C-1 (R8, S1)
•	JPM CUE SHEET	
		2002 NRC S6

INITIAL CONDITIONS:

A LOCA has just occurred resulting in a Reactor Trip, Safety Injection, and Containment Phase A and Phase B Isolation. The stub busses have been reenergized following the CIB. Step 4 of ES-1.2, Post LOCA Cooldown and Depressurization is in progress. 1IA-C-1B, CNMT Instrument Air Compressor is on clearance.

INITIATING CUE:

The Unit Supervisor directs you to perform Step 4 of ES-1.2, Post LOCA Cooldown and Depressurization to restore containment instrument air.

Appendix C		JOB PERFORMANCE MEASURE	Form ES-C-1 (R8, S1)
Facility:	BVPS Unit 1		Task No: 0063-021-06-013
Task Title:	Place Overpre System In Se	essure Protection rvice	JPM No: <u>2002 NRC S7</u>
K/A Referer	nce: 2.2.1	2 (3.0/3.4)	
Examinee:	-	NRC	Examiner:
Facility Eva	luator: N/A	Date:	
Method of T	esting:		
Simulated F	Performance: _	Actua	l Performance X
Classroom:		Simulator: X	Plant:
READ TO 1	THE EXAMINE	Ē	
I will explair When you o satisfied.	n the initial conc complete the tas	ditions, which steps to simulate or discussed successfully, the objective for this jo	uss, and provide initiating cues. b performance measure will be
Initial Condi	tions:	The plant is performing a cooldown Mode 4 to place OPPS in service.	to Mode 5 and has stabilized in
		Valves 1RC-1, 1RC-28 and 1RC-20 the Control Room status prints. PT	
Task Stand	ard:	Satisfactorily stroke PCV-1RC-4550 with 1OST-6.8.	C, Pressurizer PORV in accordance
Required M	aterials:	Stopwatch Keys for OPPS switches	
General Re	ferences:	1OST-6.8, Placing Overpressure Pr	rotection System (OPPS) In Service,
Handouts:		1OST-6.8, Rev. 12 (marked up cop	y)
Tools:		None	
Initiating Cu	ie:	The Unit Supervisor directs you to p PCV-1RC-455C, PRZR PORV Relic Sections VII.B and VII.C of 1OST-6 complete and all test preparations	ef Valve in accordance with .8. The Initial Conditions are
Time Critica	ıl Task:	NO	

Validation Time:

20 minutes

Appendix C

Page 2 of 9

Form ES-C-1 (R8, S1)

JOB PERFORMANCE MEASURE

Place Overpressure Protection System In Service

2002 NRC S7

Simulator Setup Information

Setup:

Initialize IC-88.

Setup SPDS to display the following points:

[UZ2006], MOV-1RC-535 [PCV-1RC-455C-2]

When directed, act as the STA to monitor computer points

and respond to Candidate requests for valve positions.

Appendix C P	ge 3 of 9 Form ES-C-1 (R8	, S1)
PERFORMA	CE INFORMATION	
Place Overpressure Protection System In S	vice 2002 NR	<u>C S7</u>
(Denote critical steps with an asterisk)	Start Time:	
Evaluator No	Provide Candidate with a stonwatch 2 -	- Kev

Performance Step 1:

Verify [PT-1RC-402 and 403], RCS Wide Range Pressure, are in

for OPPS switches and a copy of 1OST-6.8.

(Step VII.B.1)

service by one of the following.

Standard:

No action required. Step is N/A per JPM Initial Conditions.

Comments:

Performance Step 2:

(Step VII.B.2)

Verify nitrogen supply pressure for Overpressure Protection System

is \geq 600 psig.

Standard:

Candidate verifies annunciators A4-7 and A4-8 are OFF.

Comments:

Performance Step 3:

(Step VII.C.1)

Ensure [MOV-1RC-537] PRZR PORV Isol MOV, is open to provide a

flowpath to [PCV-1RC-455D].

Standard:

Candidate verifies valve red light is ON and green light is OFF.

Form ES-C-1 (R8, S1) Appendix C Page 4 of 9 PERFORMANCE INFORMATION Place Overpressure Protection System In Service 2002 NRC S7 Verify SPDS Computer Point [UZ2006] PRZR PORV ISOL VLV, Performance Step 4: indicates [MOV-1RC-535] OPEN. (Step VII.C.2) Standard: Candidate verifies computer point indicates valve is open. Inform Candidate that STA will monitor **Evaluator Note:** computer points on SPDS. Comments: Performance Step 5: Close [MOV-1RC-535], PRZR PORV Isol MOV. (Step VII.C.3) Candidate locates valve control switch and places to Close position. Standard: Verifies green light is ON and red light is OFF. Comments: As [MOV-1RC-535], PRZR PORV Isol MOV, is closing, verify Performance Step 6:

[UZ2006] indicates [MOV-1RC-535] INTER position.

Candidate verifies computer point indicates INTER position.

(Step VII.C.4)

Standard:

Appendix C

Page 5 of 9

Form ES-C-1 (R8, S1)

PERFORMANCE INFORMATION

Place Overpressure Protection System In Service

2002 NRC S7

Performance Step 7: (Step VII.C.5)

Verify SPDS Computer Point, [UZ2006], PRZR PORV Isol VIv MOV-

RC535, indicates [MOV-1RC-535] CLOSED.

Standard:

Candidate verifies computer point indicates CLOSED position.

Comments:

Performance Step 8:

(Step VII.C.6)

Verify SPDS Computer Point [PCV-1RC-455C-2], PRZR PORV, indicates CLSD.

Standard:

Candidate verifies computer point indicates CLSD position.

Comments:

Performance Step 9:

(Step VII.C.7.a)

Verify [PI-1IA-106A], Containment Instrument Air Receiver pressure

is \geq 95 psig.

Standard:

Candidate locates [PI-1IA-106A].

Verifies pressure ≥ 95 psig.

Appendix C Page 6 of 9

Form ES-C-1 (R8, S1)

PERFORMANCE INFORMATION

Place Overpressure Protection System In Service

2002 NRC S7

* Performance Step 10: Open AND time [PCV-1RC-455C], PRZR PORV Relief VIv. (Step VII.C.7.b.1)

Standard:

Candidate locates valve control switch.

- Opens and times using stopwatch.
- Verifies red light is ON and green light is OFF.

Comments:

Performance Step 11: (Step VII.C.7.b.2)

Verify SPDS computer point [PCV-1RC-455C-2], PRZR PORV,

indicates NT CLSD.

Standard:

Candidate verifies computer point indicates NT CLSD position.

Comments:

* Performance Step 12: (Step VII.C.7.b.3)

Close [PCV-1RC-455C], PRZR PORV Relief VIv.

Standard:

Candidate locates valve control switch and positions to Close.

Verifies green light is ON and red light is OFF.

Ap	pendix C	Page 7 of 9 PERFORMANCE INFORMATION	Form ES-C-1 (R8, S1)
Pla	ace Overpressure Protect		2002 NRC S7
	Performance Step 13: (Step VII.C.7.b.4)	Record the opening stroke time of [PCV Relief VIv, on Data Sheet 1.	'-1RC-455C], PRZR PORV
	Standard:	Candidate records opening time on Data	a Sheet 1.
	Comments:		
*	Performance Step 14: (Step VII.C.7.b.5)	Place [PCV-1RC-455C], PRZR PORV F AUTO.	Relief VIv, control switch to
	Standard:	Candidate locates control switch and pla	aces to AUTO position.
	Comments:		
*	Performance Step 15: (Step VII.C.7.b.6)	When [PCV-1RC-455C], PRZR PORV Fopen [MOV-1RC-535], PRZR PORV Iso	
	Standard:	Candidate locates control switch and pla Verifies red light is ON and green light	
	Comments:		

Terminating Cue:

When the Candidate verifies [MOV-1RC-535] is open, the evaluation for this JPM is complete.

Time:	

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ч	D	Ð	е	n	u	X	

Page 8 of 9

Form ES-C-1 (R8, S1)

VERIFICATION OF COMPLETION

Place Overpressure Protection System In Service

2002 NRC S7

JPM No.:	2002 NRC S7	
Examinee's Name:		
Examiner's Name:		
Date performed:		
Facility Evaluator:	N/A	
Number of attempts:		
Time to complete:		
Question Documentation:		
Question:		
Response:		
Result:	SAT	UNSAT
Examiner's signature and date	te:	

Appendix C	Page 9 of 9 JPM CUE SHEET	Form ES-C-1 (R8, S1)
	3 302 622.	2002 NRC S7

INITIAL CONDITIONS:

The plant is performing a cooldown to Mode 5 and has stabilized in Mode 4 to place OPPS in service.

Valves 1RC-1, 1RC-28 and 1RC-200 have been verified open from the Control Room status prints. PT-1RC-402 and 403 are in service.

INITIATING CUE:

The Unit Supervisor directs you to perform a stroke test of PCV-1RC-455C, PRZR PORV Relief Valve in accordance with Sections VII.B and VII.C of 1OST-6.8. The Initial Conditions are complete and all test preparations have been performed.

Appendix C		JOB PERFO	PRMANCE MEASURE	Form ES-C-1 (R8, S1)
Facility:	BVPS (Jnit 1		Task No: 0241-028-01-013
Task Title:	Startup Pump	The Dedicated AFW		JPM No: <u>2002 NRC P1</u>
K/A Refere	nce:	061K1.07 (3.6/3.8)	061A3.01 (4.2/4.2)	009EK3.22 (4.4/4.5)
Examinee:			_ NRC E	xaminer:
Facility Eva	aluator:	N/A	Date:	
Method of	Testing:			
Simulated	Performar	nce: <u>X</u>	Actual	Performance:
Classroom	•	Simula	ator:	Plant: X
READ TO	THE EXA	MINEE		
I will explai When you satisfied.	n the initia complete	al conditions, which ste the task successfully, t	ps to simulate or discu he objective for this job	ss, and provide initiating cues. performance measure will be
Initial Cond	Initial Conditions: The Control Room is performing EOP FR-H.1, Response To Loss Secondary Heat Sink. A plant fire has disabled all 3 AFW pumps 1FW-P-4, Dedicated AFW Pump is available and aligned to 1WT-TK-11. ERF Substation 4160V Bus "1H" is energized from power. The ERF diesel is not running.			as disabled all 3 AFW pumps. available and aligned to ' Bus "1H" is energized from offsite
Task Stand	dard:	1FW-P-4, Dec Attachment 2-		started in accordance with EOP
Required M	/laterials:	None		
General Re	eferences:	1OM-53A.1.2- Rev. 0.	-K, Dedicated AFW Pu	mp [1FW-P-4] Startup, Issue 1C,
Handouts:		1OM-53A.1.2-	-K, Issue 1C, Rev. 0	
Tools:		None		
Initiating Cue: The Unit Supervisor directs you as an extra Operator on shift to startup 1FW-P-4, Dedicated AFW Pump in accordance with step 4 through 13 of EOP Attachment 2-K.			ump in accordance with steps	
Time Critic	al Task:	NO		

Validation Time:

20 minutes

Appendix C	Page 2 of 8	Form ES-C-1 (R8, S1)
	JOB PERFORMANCE MEASURE	
Startup The Dedicated AFW Pump		2002 NRC P1

Simulator Setup Information

Setup:	None required.	

Appendix C		Page 3 of 8		Form ES-C-1 (R8, S1)	
St	artup The Dedicated AFW	PERFORMANCE / Pump	INFORMATION	2002 NRC P1	
	Denote critical steps with a		Sta	art Time:	
		Evaluator Note:	Reg. Valve Room	ormed from the Main Feed , except Step 10 which is ne Turbine Bldg. basement.	
*	Performance Step 1: (Step 4)	At DAFW Pump Co TEST Switch to LO energize the panel.	ntrol Panel [PNL-DA CAL and the ON-OF	FWP1], Place the LOCAL- F Panel Switch to ON to	
	Standard:	Candidate locates p LOCAL position.	oanel control switch a	and indicates placing to	
	Comments:				
•	Performance Step 2: (Step 5)			[1FW-P-4] Discharge Isol.	
	Standard:	Candidate locates v	alve position indicati	ing lights.	
		 Indicates verifyi 	ng green light is ON.		
		CUE: [MOV-1FW-	160] is closed.		
	Comments:				
	Performance Step 3: (Step 6)	Establish communic	cations with the Cont	rol Room.	
	Standard:	Candidate indicates	method of contactin	ig the Control Room.	
		CUE: Communica	tions established.		
	Comments:				

Form ES-C-1 (R8, S1) Appendix C Page 4 of 8 PERFORMANCE INFORMATION 2002 NRC P1 Startup The Dedicated AFW Pump Start [1FW-P-4], Dedicated AFW Pump Performance Step 4: (Step 7) Candidate locates control switch and indicates taking out of P-T-L Standard: and placing to Start position. Indicates verifying red light is ON. Comments: Open [MOV-1FW-160], DAFW [1FW-P-4] Discharge Isol. Performance Step 5: (Step 8) Candidate locates control switch and indicates placing to Open Standard: position. Indicates verifying red light is ON. Comments: Performance Step 6: Reset FWI (Both Trains). (Step 9)

Contacts the PO in the Control Room to reset FWI.

CUE: FWI is reset on both trains.

Evaluator Note: Step is performed from the Control Room.

Comments:

Standard:

Appendix C
Page 5 of 8
Form ES-C-1 (R8, S1)
PERFORMANCE INFORMATION

Startup The Dedicated AFW Pump
2002 NRC P1

Performance Step 7: Open [MOV-1FW-156A, B, C], 1A, 1B, 1C SG Main FW Cnmt Isol. Vivs.

Standard: Contacts PO in the Control Room to open valves.

CUE: All valves are open.

Evaluator Note: Step is performed from the Control Room.

Comments:

Performance Step 8:

(Step 11)

Throttle [FCV-1FW-479, 489, 499], 1A, 1B, 1C SG FW Bypass FCVs.

Standard:

Contacts PO in the Control Room to throttle valves.

CUE: All valves are throttled.

Evaluator Note:

Step is performed from the Control Room.

Comments:

Performance Step 9:

(Step 12)

Verify pump suction and discharge flow rises as indicated on

[FI-1FW-155B, 156].

Standard:

Candidate locates FI-1FW-155B and 156.

CUE: Flow is approximately 300 gpm and rising.

Appendix C	Page 6 of 8	Form ES-C-1 (R8, S1)		
• •	PERFORMANCE INFORMATION			
Startup The Dedicated AFW	/ Pump	2002 NRC P1		
Performance Step 10: (Step 13.a)	At [PNL-DAFWP2], Place the ON-OFF (Turbine Bldg - 693').	Switch to ON		
Standard:	Candidate locates panel control switch and indicates placing to ON position.			
	CUE: All pump parameters are satisfa	actory.		
Comments:				
Terminating Cue:	When the Candidate verifies pump flow is complete.	v, the evaluation for this JPM		

Stop Time:

Ap	pendix	C

Page 7 of 8

Form ES-C-1 (R8, S1)

VERIFICATION OF COMPLETION

Startup The Dedicated AFW Pump

2002 NRC P1

Startup The Dedicated Ar W	i dilip		2002 NITO 1 1
JPM No.:	2002 NRC P1		
Examinee's Name:			
Examiner's Name:			
Date performed:			
Facility Evaluator:			
Number of attempts:			
Time to complete:			
Question Documentation:			
Question:			
Response:			
Result:	SAT	UNSAT	
Examiner's signature and da	te:		

Appendix C	Page 8 of 8	Form ES-C-1 (R8, S1)
• •	JPM CUE SHEET	
		2002 NRC P1

INITIAL CONDITIONS:

The Control Room is performing EOP FR-H.1, Response To Loss Of Secondary Heat Sink. A plant fire has disabled all 3 AFW pumps. 1FW-P-4, Dedicated AFW Pump is available and aligned to 1WT-TK-11. ERF Substation 4160V Bus "1H" is energized from offsite

power. The ERF diesel is not running.

INITIATING CUE:

The Unit Supervisor directs you as an extra Operator on shift to startup 1FW-P-4, Dedicated AFW Pump in accordance with steps 4 through 13 of EOP Attachment 2-K.

Appendix C		JOB PERFOR	RMANCE MEASU	RE Form ES-C-1 (R8, S1)	
Facility:	BVPS Unit 1			Task No: 0201-004-01-013	
Task Title:	Respond To S Low Level Ala	Spent Fuel Pool arm		JPM No: <u>2002 NRC P2</u>	
K/A Referer	nce: 033	K1.05 (2.7/2.8)	033K4.01	(2.9/3.2)	
Examinee:			NF	C Examiner:	
Facility Eval	uator: N/A		Da	te:	
Method of T	esting:				
Simulated P	erformance: _	<u>x</u>	Ac	ual Performance:	
Classroom:		Simulat	or:	Plant: X	
READ TO T	HE EXAMINE	E			
I will explain When you c satisfied.	the initial conc omplete the ta	ditions, which step sk successfully, th	s to simulate or di e objective for this	scuss, and provide initiating cues. s job performance measure will be	
Initial Condi	tions:	alarmed. Make alarm. An Ope	Annunciator [A6-3], SPENT FUEL POOL LEVEL LOW has just alarmed. Makeup is required to restore SFP level and clear the alarm. An Operator has been dispatched to observe level. The RWST level is at 50 feet and is not on recirculation purification.		
Task Standa	ard:	Complete the a 10M-20.4.AAC		SFP level in accordance with	
Required Ma	aterials:	None			
General Ref	ferences:	1OM-20.4.AAC	, Spent Fuel Poo	Level Low, Rev. 8	
Handouts:		10M-20.4.AAC	, Rev. 8		
Tools:		None			
Initiating Cu	e:	coordinate with		as an extra Operator on shift to ater to the Spent Fuel Pool from the 20.4.AAC.	
Time Critica	l Task:	NO			

Validation Time:

20 minutes

Appendix C	Page 2 of 7	Form ES-C-1 (R8, S1)
Apportunit C	JOB PERFORMANCE MEASURE	, , ,
Respond To Spent Fuel Po	ol Low Level Alarm	2002 NRC P2

Simulator Setup Information

Setup:	None required.

Appendix C	Page 3		Form ES-C-1 (R8, S1)
Respond To Spent Fuel Po	PERFORMANCE of Low Level Alarm	INFORMATION	2002 NRC P2
(Denote critical steps with a			Start Time:
Performance Step 1: (Step 3.a.1)	Initiate makeup fror		performing the following: Pri Water Sup To Spent Fuel
Standard:	Candidate locates vin the closed position		es method of verifying valve is
	CUE: [1PC-118] is	s closed.	
Comments:			
Performance Step 2: (Step 3.a.2)	Initiate makeup from • Verify Closed on RWST Recirc S	r Close [1PC-146	performing the following: i], Fuel Pool Purification Sys To
Standard:	Candidate locates vin the closed position		es method of verifying valve is
	CUE: [1PC-146] is	s closed.	
Comments:			
* Performance Step 3: (Step 3.a.3)	Initiate makeup fror • Open [1QS-37],		erforming the following: Fuel Pool Isol.
Standard:	Candidate locates a	and indicates ope	ening valve.
	CUE: [1QS-37] is	stuck closed and	will NOT open.
	Evaluator Note:	If Candidate re Shift Manager water to the fu	equests direction, inform that the directs adding primary grade lel pool.
Comments:			

Appendix C

Page 4 of 7

Form ES-C-1 (R8, S1)

PERFORMANCE INFORMATION

Respond To Spent Fuel Pool Low Level Alarm

2002 NRC P2

Note: The following steps represent the alternate path for this JPM.

Performance Step 4:

(Step 3.c.1)

Add primary grade water to the fuel pool as follows:

Stop any running [1QS-P-2A (2B)], Refueling Water Recirculating

Pump to prevent dead heading.

Standard:

No action required. (RWST is not on recirculation purification per

JPM Initial Conditions.)

Comments:

Performance Step 5:

(Step 3.c.2)

Add primary grade water to the fuel pool as follows:

Using Control Room Status Prints, Check Open [1BR-543], Prints

Makeup to Fuel Pool Clg Isol.

Standard:

Candidate requests PO to check valve position using Control Room

Status Prints.

CUE: [1BR-543] is open.

Comments:

Performance Step 6:

(Step 3.c.3)

Add primary grade water to the fuel pool as follows:

Verify Closed or Close [1QS-37], Refuel Water to Fuel Pool Isol.

Standard:

No action required. (Valve previously cued as stuck closed in step 3.)

Appendix C	Page 5 of 7	Form ES-C-1 (R8, S1)
	PERFORMANCE INFORMATION	
Respond To Spent Fuel Po	ol Low Level Alarm	2002 NRC P2
Performance Step 7: (Step 3.c.4)	 Add primary grade water to the fuel po Verify Closed or Close [1PC-146], RWST Recirc Sys Isol. 	ool as follows: Fuel Pool Purification Sys To
Standard:	No action required. (Valve previously	verified closed in step 2.)
Comments:		
* Performance Step 8: (Step 3.c.5)	Add primary grade water to the fuel po Open [1PC-118], Pri Water Sup To	
Standard:	Candidate locates and indicates methodalve.	od of unlocking and opening
	CUE: [1PC-118] is open.	
Comments:		
* Performance Step 9: (Step 3.c.6)	Add primary grade water to the fuel po Throttle Open [1PC-145], Fuel Poo	
Standard:	Candidate locates and indicates throttl	ing open valve.
	CUE: [1PC-145] is throttled open.	
	CUE: As PO, inform Candidate that S	SFP level is slowly rising.
Comments:		
Terminating Cue:	When the Candidate completes the line SFP, the evaluation for this JPM is con	

Stop Time:

					- 1		
А	D	D	е	n	a	ix	L

Page 6 of 7

Form ES-C-1 (R8, S1)

VERIFICATION OF COMPLETION

Respond To Spent Fuel Pool Low Level Alarm

2002 NRC P2

nespond to spent tuel to	JI LOW LEVEL AIGHT		2002 14110 1 2
JPM No.:	2002 NRC P2		
Examinee's Name:			
Examiner's Name:			
Date performed:			
Facility Evaluator:			
Number of attempts:			
Time to complete:			
Question Documentation:			
Question:			
Response:			
Result:	SAT	UNSAT	
Examiner's signature and da	nte:	· · · · · · · · ·	

Appendix C	Page 7 of 7 JPM CUE SHEET	Form ES-C-1 (R8, S1)
		2002 NRC P2

INITIAL CONDITIONS:

Annunciator [A6-3], SPENT FUEL POOL LEVEL LOW has just alarmed. Makeup is required to restore SFP level and clear the alarm. An Operator has been dispatched to observe level. The RWST level is at 50 feet and is not on recirculation purification.

INITIATING CUE:

The Unit Supervisor directs you as an extra Operator on shift to coordinate with the PO to add water to the Spent Fuel Pool from the RWST in accordance with 10M-20.4.AAC.

Appendix C	;	JOB PERFORM	MANCE MEASURE	Form ES-C-1 (R8, S1)
Facility:	BVPS U	Jnit 1		Task No: 0011-021-01-013
Task Title:	Locally .	Trip The Reactor		JPM No: <u>2002 NRC P3</u>
K/A Refere	nce:	001K6.03 (3.7/4.2)	001A2.13 (4.4	1/4.6)
Examinee:		. 11.4	NRC E	xaminer:
Facility Eva	luator:	N/A	Date:	
Method of	Γesting:			
Simulated F	Performan	nce: <u>X</u>	Actual	Performance:
Classroom:		Simulator	•	Plant: X
READ TO	THE EXA	MINEE		
l will explair When you o satisfied.	n the initia complete t	al conditions, which steps the task successfully, the	to simulate or discus objective for this job	ss, and provide initiating cues. performance measure will be
Initial Cond	itions:	FR-S.1, Respons	se To Nuclear Powe	The operating crew has entered r Generation - ATWS after om the Control Room proved
Task Stand	ard:	The reactor is loc	cally tripped in accor	dance with EOP FR-S.1.
Required M	laterials:	None		
General Re	eferences:	1OM-53A.1.FR-S ATWS, Issue 1C		uclear Power Generation -
Handouts:		1OM-53A.1.FR-5	6.1, Issue 1C, Rev. 2	2
Tools:		None		
Initiating Cu	ıe:			n extra Operator on shift to with EOP FR-S.1, Step 1.
Time Critica	al Task:	NO		

Validation Time:

10 minutes

Appendix C	Page 2 of 5	Form ES-C-1 (R8, S1)
	JOB PERFORMANCE MEASURE	
Locally Trip The Reactor		2002 NRC P3
	Simulator Setup Information	

Setup:	None required.		

Appendix C		Page 3 of 5		Form ES-C-1 (R8, S1)		
		PERFORMANCE	INFORMATION			
Lc	ocally Trip The Reactor			2002 NRC P3		
(D	enote critical steps with a	n asterisk)		Start Time:		
		Evaluator Note:		lidate to simulate all actions and the reactor trip pushbuttons.		
*	Performance Step 1: (Step 1.e RNO)	Open reactor trip b	oreakers.			
	Standard:	Candidate locates each breaker and indicates pressing the pushbutton to trip the breaker.				
		CUE: Both reacto	CUE: Both reactor trip breakers fail to open.			
	Comments:					
_						
	Note: The fe		anda dha aldannad	a mostly fourthing IDM		
	Note: The to	llowing step repres	ents the alternat	e path for this JPM.		
*	Performance Step 2: (Step 1.e RNO)	Open rod drive MG	a sets output brea	kers.		
Standard:		Candidate locates each MG set output breaker and indicate the handle to open the breaker.		out breaker and indicates turning		
		CUE: Both rod dr	ive MG sets outpo	ut breakers are open.		
	Comments:					
Terminating Cue:		When the Candida the evaluation for t	te simulates oper his JPM is comple	ning the rod drive MG set breakers, ete.		

Stop Time: _____

Дp	pen	dix	C

Page 4 of 5 VERIFICATION OF COMPLETION

Form ES-C-1 (R8, S1)

Locally Trip The Reactor		 	2002 NRC P3
JPM No.:	2002 NRC P3		
Examinee's Name:			
Examiner's Name:			
Date performed:			
Facility Evaluator:			
Number of attempts:			
Time to complete:			
Question Documentation:			
Question:			
Response:			
Result:	SAT	UNSAT	
Examiner's signature and o	date:		

Appendix C	Page 5 of 5	Form ES-C-1 (R8, S1)
	JPM CUE SHEET	2002 NRC P3

INITIAL CONDITIONS:

A Unit trip has just been announced. The operating crew has entered FR-S.1, Response To Nuclear Power Generation - ATWS after efforts to manually trip the reactor from the Control Room proved unsuccessful.

INITIATING CUE:

The Unit Supervisor directs you as an extra Operator on shift to locally trip the reactor in accordance with EOP FR-S.1, Step 1.